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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/573,847	MIN ET AL.	
	Examiner	Art Unit	
	BENJAMIN ELLIOTT	4144	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-20 have been examined and are pending.

Claim Objections

2. Claims 1-4, 6, 10, 12-16, 18-20 are objected to because of the following informalities: the acronym "UPnP AV" does not have a descriptive meaning included. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-6, 8-12, 14, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Publication US 2005/0086355 A1 by Deshpande (hereinafter "Deshpande"), and further in view of an article of non-patent literature entitled "Accessing UPnP Devices in Private Networks from the Internet with UPnP Directory Server", written by Chunglae Cho, JaeMyung Kim, and KwangRoh Park. The contents therein were first presented in a publication of the International Association for

Computer and Information Science, Vol. 1, NO. 1 pp 65-70, October, 2001. The publication contains the Proceedings of the ACIS 1st Annual International Conference on Computer and Information Science ICIS 2001, October 3-5, 2001. This article is hereinafter referenced "Cho".

As per Claim 1, Deshpande discloses **in a UPnP-based network system in which UPnP AV devices are located on a home network and a common internet, respectively** ([0037]; The invention utilizes UPnP technology upon UPnP AV media servers and UPnP AV media renderering devices. Figure 1; Figure 1 is a representation of the devices interacting between the Internet and the home network. [0034]; The home server system and the client system interact with the media server.), **a UPnP AV device interworking method of the UPnP-based network system, which allows the UPnP devices to interwork with each other, by transforming a private address to a public-address by Uniformed Resource Identifier (URI) address transformation between the UPnP AV devices located on the home network and the common internet, respectively.**

Deshpande is silent on translating addresses from private to public to specifically allow the UPnP device interworkability and a UPnP device located on the Internet.

Cho teaches a method of accessing private UPnP devices from an external client on the Internet (pg. 65, col. 1, paragraph 2). URL (universal resource locator) addresses are translated by NAT (network address translation) along with the appropriate port numbers of the destination (pg. 67, col. 2, paragraph 3, "Step 2".). Cho also teaches the need to solve the problem of accessing UPnP devices from an UPnP client on the

Internet (pg. 67, col. 1, paragraph 4). The UPnP directory server located in the Internet passes information from UPNP devices in an internal network to control points in an external network (pg. 67, col. 2, paragraph 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Deshpante with the teachings of Cho to provide external clients with converted device description information based on IP addresses and to search information of UPnP devices equipped to respond to media servers and media renderers in a network (pg. 65, col. 1, paragraph 2; pg. 67, col. 1, paragraph 4).

As per Claim 2, Deshpande in view of Cho discloses **the method of claim 1, further comprising a control point (CP) for controlling the UPnP AV devices located on the home network and the common internet, respectively** (Deshpande; [0037]; The invention utilizes UPnP technology upon UPnP AV media servers and UPnP AV media renderering devices. Figure 1; Figure 1 is a representation of the devices interacting between the Internet and the home network. [0034]; The home server system and the client system interact with the media server. Cho; pg. 66, col. 1 and 2, paragraph 6; The control point can invoke actions on devices and poll for values.), **wherein the CP is located on the home network or the common internet** (Cho; pg. 67, col. 2, paragraph 1; The control point is located in the external network.).

The examiner maintains the motivation to modify the teachings of Deshpante with the teachings of Cho as disclosed in Claim 1.

As per Claim 3, Deshpande in view of Cho discloses **the method of claim 2, wherein any one of the UPnP AV device, the CP and an internet gateway device (IGD) for connecting the CP and the UPnP AV device performs the URI address transformation** (Deshpande; [0037]; The invention utilizes UPnP technology upon UPnP AV media servers and UPnP AV media renderering devices. Figure 1; Figure 1 is a representation of the devices interacting between the Internet and the home network. [0034]; The home server system and the client system interact with the media server. Cho; pg. 69, col. 2, paragraph 6; The CP (control point) module in the UPnP directory server contains a document parser and converter that converts the addresses of URLs. The NAT Client assigns the public addresses of the URLs. Figure 2 shows a CP module and a proxy server module. Both of these modules contain discoveries and announcements in the form of multicast transmissions and unicast transmissions between the home network and the internet, respectively. Thus, these are gateways for interconnecting the control point module with an UPnP device.).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Deshpande to include URI address transformation taught by Cho, because accessing UPnP devices in a private network from a public network can not be done using peer-t-peer UPnP protocol. URL translation via NAT allows private addresses to be translated to public addresses (pg. 65, col. 2, paragraphs 2 and 3).

As per Claim 4, Deshpande in view of Cho discloses **the method of claim 3, wherein, in the case of an in-band streaming protocol, the CP performs the URI**

address transformation, and in the case of an out-of-band streaming protocol, the UPnP AV device performs the URI address transformation (Deshpande; ([0037]; The invention utilizes UPnP technology upon UPnP AV media servers and UPnP AV media renderering devices. Figure 1; Figure 1 is a representation of the devices interacting between the Internet and the home network. [0034]; The home server system and the client system interact with the media server. Cho; pg. 67, col. 2, paragraph 1; The UPnP directory server acts as a proxy between the points on the internet and points in the home network. pg. 69, Figure 2, col. 2, paragraphs 1 and 3. The directory server contains a control module for address conversion. In this way, the server does translations both in network streaming translation and home network streaming translation.).

The examiner maintains the motivation to modify the teachings of Deshpante with the teachings of Cho as disclosed in Claim 3.

As per Claim 5, Deshpande in view of Cho discloses **the method of claim 1, wherein the URI address transformation is transformation of an IP address and a port by Network Address Transform (NAT)** (Deshpande; [0037]; The invention utilizes UPnP technology upon UPnP AV media servers and UPnP AV media renderering devices. Figure 1; Figure 1 is a representation of the devices interacting between the Internet and the home network. [0034]; The home server system and the client system interact with the media server. Cho; pg. 67, col. 2, paragraph 3, “Step 2”, Figure 1, “Step 2”; URL (universal resource locator) addresses are translated by NAT

(network address translation) along with the appropriate port numbers of the destination.).

The examiner maintains the motivation to modify the teachings of Deshpante with the teachings of Cho as disclosed in Claim 3.

As per Claim 6, Deshpande in view of Cho discloses **the method of claim 1, wherein, when the UPnP AV device located on the home network is a media server (MS), the UPnP AV device located on the common internet is a media renderer (MR)** (Deshpande; Figure 1; Figure 1 shows the media server operating over the internet. The client system contains the media renderer.), **the CP for controlling the MR and the MS is located on the common internet** (Cho; pg. 67, col. 2, paragraph 1; The control points are located on the internet (external public network.)), **and an IGD for connecting the CP and the MS is included** (Cho; pg. 69, Figure 2; The directory server acts as the gateway.), **the CP performs the address transformation of the URIs included in return values of Browse( ) and Search( ) actions from the MS** (Cho; pg. 67, last paragraph through pg. 68, col. 2, paragraph 3 (begins "The format of response messages..."); The control point sends description requests via the directory server. The server returns response messages that contain the URLs of address changed descriptions.).

Deshpande does not teach a control point for controlling the media renderer and server on the common internet and performing address translation via returned values from the media server. However, Cho teaches these functions. Therefore, it would have been obvious to one of ordinary skill in the art to modify the teachings of Deshpande

with the teachings of Cho to allow the control point to access the devices located in the home network and their URL descriptions (Cho; pg. 67, last paragraph through pg. 68, col. 2, paragraph 3 (begins "The format of response messages..."), and allow external devices to the home network to access devices via the Internet (pg. 65, col. 1, paragraph 2).

As per Claim 8, Deshpande in view of Cho discloses **the method of claim 6, wherein the MS, the IGD or the CP performs the address transformation of the URIs included in the return values of the Browse( ) and Search( ) actions** (Deshpande; [0055], Figure 9; The home server system contains a content directory that allows for browsing and searching media files. Cho; pg. 66, col. 1 and 2, paragraph 6; The control point can invoke actions on devices and poll for values. URL (universal resource locator) addresses are translated by NAT (network address translation) along with the appropriate port numbers of the destination (pg. 67, col. 2, paragraph 3, "Step 2". Cho; Figure 2; Figure 2 shows the control point module contains a NAT client for translation.).

The examiner maintains the motivation to modify the teachings of Deshpante with the teachings of Cho as disclosed in Claim 3.

As per Claim 9, Deshpande in view of Cho discloses **the method of claim 8** (Deshpande; [0037]; The invention utilizes UPnP technology upon UPnP AV media servers and UPnP AV media renderering devices. Figure 1; Figure 1 is a representation of the devices interacting between the Internet and the home network. [0034]; The home server system and the client system interact with the media server.), **wherein the**

URI address transformation is transformation of an IP address and a port by the NAT, which transforms IP addresses and ports in the whole URIs or the URIs selected by the user (on-the-fly) (Cho; pg. 67, col. 2, paragraph 3, "Step 2"; URL (universal resource locator) addresses are translated by NAT (network address translation) along with the appropriate port numbers of the destination.).

The examiner maintains the motivation to modify the teachings of Deshpante with the teachings of Cho as disclosed in Claim 3.

As per Claim 10, Deshpande in view of Cho discloses **the method of claim 9** ([0037]; The invention utilizes UPnP technology upon UPnP AV media servers and UPnP AV media renderering devices. Figure 1; Figure 1 is a representation of the devices interacting between the Internet and the home network. [0034]; The home server system and the client system interact with the media server.), **wherein, when the CP and the MS are connected to each other, the NAT is set up by a UPnP IGD CP included in the MS** (Cho; Figure 2 shows a CP module and a proxy server module. Both of these modules contain discoveries and announcements in the form of multicast transmissions and unicast transmissions between the home network and the internet, respectively. Thus, these are gateways for interconnecting the control point module with an UPnP device.).

The examiner maintains the motivation to modify the teachings of Deshpante with the teachings of Cho as disclosed in Claim 3.

As per Claim 11, Deshpande in view of Cho discloses **the method of claim 6, further comprising the steps of:**

transmitting, at the CP, Browse( ) or Search() action to the MS through the IGD (Deshpande; [0055], Figure 9; The home server system contains a content directory that allows for browsing and searching media files.); **transmitting, at the MS, an action return value including a URI to the CP** (Deshpande; [0045]; The address information contained in the URI is streamed in a media file at the media server. Cho; pg. 66, col. 1 and 2, paragraph 6; The control point can invoke actions on devices and poll for values. pg. 67, col. 2, paragraph 1; The control point is located in the external network.) **through the IGD** (Cho; pg. 69, Figure 2; The directory server acts as the gateway.); **and playing back, at the MR, the contents under the control of the CP** (Deshpande; [0003]; The content directory allows for streaming media to be played on the appropriate rendering device.).

Deshpande does not teach a control point for controlling the media renderer and server on the common internet and performing address translation via returned values from the media server through the gateway. However, Cho teaches these functions. Therefore, it would have been obvious to one of ordinary skill in the art to modify the teachings of Deshpande with the teachings of Cho to allow the control point to access the devices located in the home network and their URL descriptions (Cho; pg. 67, last paragraph through pg. 68, col. 2, paragraph 3 (begins "The format of response messages..."), and allow external devices to the home network to access devices via the Internet (pg. 65, col. 1, paragraph 2).

As per Claim 12, Deshpande in view of Cho discloses, **the method of claim 1, wherein, when the UPnP AV device located on the home network is an MS**

(Deshpande; [0003]; The media server may be a personal computer located in a home network.), **the UPnP AV device located on the common internet is an MR** (Deshpande; [0037]; The rendering device is also located within the home network.), **the CP for controlling the MR and the MS is located on the home network** (Cho; pg. 67, col. 2, paragraph 1; The control points are located on the internet (external public network.)), **and an IGD for connecting the CP and the MR is included** (Cho; Figure 2 shows a CP module and a proxy server module. Both of these modules contain discoveries and announcements in the form of multicast transmissions and unicast transmissions between the home network and the internet, respectively. Thus, these are gateways for interconnecting the control point module with an UPnP device.), **the CP transforms a URI address of SetAVTransportURI( ) action to a fixed address so that the MR can play back the contents** (Deshpande; [0003]; The content directory allows for streaming media to be played on the appropriate rendering device. Cho; pg. 69, col. 2, paragraph 6; The CP (control point) module in the UPnP directory server contains a document parser and converter that converts the addresses of URLs. The NAT Client assigns the public addresses of the URLs.).

Deshpande is silent on a control point for controlling the media server, a gateway, and URI address transformation. Deshpande does teach a personal computer (which can be a control point) in the home network ([0003]), but does not explicitly teach the PC being the control point. As described, Cho does in fact teach these limitations.

The examiner maintains the motivation to modify the teachings of Deshpante with the teachings of Cho as disclosed in Claim 3.

Further, it has been held that there would be no invention in shifting the location of parts in a disclosed embodiment of an invention (*In re Japiske*, 86 USPQ 70 (CCPA 1950). By shifting the media renderer, the media server, the gateway, and the control point from the home network to the internet and vice-versa does not constitute modification. Therefore, in this case, shifting the media renderer to the common internet from the home network and shifting the CP from the internet to the home network would not thereby be modified.

As per Claim 14, Deshpande in view of Cho discloses **the method of claim 1, wherein, when the UPnP AV device located on the home network is an MR** (Deshpande; [0037]; The rendering device is also located within the home network.), **the UPnP AV device located on the common internet is an MS** (Deshpande; [0003]; The media server may be a personal computer located in a home network.), **the CP for controlling the MR and the MS is located on the home network** (Cho; pg. 67, col. 2, paragraph 1; The control points are located on the internet (external public network.)), **and an IGD for connecting the CP and the MS is included** (Cho; Figure 2 shows a CP module and a proxy server module. Both of these modules contain discoveries and announcements in the form of multicast transmissions and unicast transmissions between the home network and the internet, respectively. Thus, these are gateways for interconnecting the control point module with an UPnP device.), **the CP transforms a URI address of SetAVTransportURI( ) action called from the MS** (Deshpande; [0003]; The content directory allows for streaming media to be played on the appropriate rendering device. Cho; pg. 69, col. 2, paragraph 6; The CP (control point)

module in the UPnP directory server contains a document parser and converter that converts the addresses of URLs. The NAT Client assigns the public addresses of the URLs.).

The examiner maintains the motivation to modify the teachings of Deshpante with the teachings of Cho as disclosed in Claim 12.

As per Claim 17, Deshpande in view of Cho discloses **the method of claim 1, wherein the URI address transformation transforms an IP address and a port number of the URI into a public address** (Deshpande; [0037]; The invention utilizes UPnP technology upon UPnP AV media servers and UPnP AV media renderering devices. Figure 1; Figure 1 is a representation of the devices interacting between the Internet and the home network. [0034]; The home server system and the client system interact with the media server. Cho; pg. 65, col. 1, paragraph 2; The directory server translates the URL information from private addresses to public addresses using NAT technology.).

The examiner maintains the motivation to modify the teachings of Deshpante with the teachings of Cho as disclosed in Claim 3.

As per Claim 16, Deshpande discloses **in an UPnP-based network system in which UPnP AV devices are located on a home network and a common internet, respectively, a UPnP AV device interworking method of the UPnP-based network system** ([0037]; The invention utilizes UPnP technology upon UPnP AV media servers and UPnP AV media renderering devices. Figure 1; Figure 1 is a representation of the

devices interacting between the Internet and the home network. [0034]; The home server system and the client system interact with the media server.), **comprising the steps of:**

obtaining, at a CP controlling the UPnP AV devices, a URI of contents located on the home network; transforming, at the CP, a private address of the URI to a public address; and receiving and playing back, at the UPnP AV device located on the common internet, predetermined contents by streaming on the basis of the transformed address ([0003]; The content directory allows for streaming media to be played on the appropriate rendering device.).

Deshpande is silent on a control point controlling the UPnP AV devices containing URI information and transforming the private address to a public address.

However, Cho teaches a method of accessing private UPnP devices from an external client on the Internet (pg. 65, col. 1, paragraph 2). URL (universal resource locator) addresses are translated by NAT (network address translation) along with the appropriate port numbers of the destination (pg. 67, col. 2, paragraph 3, "Step 2".). Cho further teaches the control point controlling UPnP devices (pg. 66, col. 1 and 2, paragraph 6; The control point can invoke actions on devices and poll for values.).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Deshpante with the teachings of Cho to provide external clients with converted device description information based on IP addresses and to search information of UPnP devices in a network using a control point

(wherein the control point can be a PC or device of the like) (pg. 65, col. 1, paragraph 2; pg. 67, col. 1, paragraph 4).

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Deshpande in view of Cho, and further in view of US Patent Publication US 2003/0126239 A1 by Hwang (hereinafter "Hwang").

As per Claim 7, Deshpande in view of Cho discloses **the method of claim 6, wherein the IGD is an independent gateway device or a personal computer (PC) serving as a gateway** (Deshpande; [0037]; The invention utilizes UPnP technology upon UPnP AV media servers and UPnP AV media renderering devices. Figure 1; Figure 1 is a representation of the devices interacting between the Internet and the home network. [0034]; The home server system and the client system interact with the media server. Cho; pg. 67, col. 2, paragraph 3, "Step 2", Figure 1, "Step 2"; URL (universal resource locator) addresses are translated by NAT (network address translation) along with the appropriate port numbers of the destination.).

Deshpande and Cho do not explicitly disclose the gateway being a personal computer or an independent gateway device.

However, Hwang discloses a method of controlling UPnP capable devices via a control point application and an additional home gateway device ([0008]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Deshpande and Cho with the teachings of Hwang to control UPnP devices and connect them to an external network ([0010]).

6. Claims 13, 15, and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deshpande in view of Cho and further in view of an article of non-patent literature entitled "Accessing UPnP Devices in Private Networks from the Internet with UPnP Directory Server", written by Chunglae Cho, JaeMyung Kim, and KwangRoh Park. The contents therein were first presented in a publication of the International Association for Computer and Information Science, Vol. 1, NO. 1 pp 65-70, October, 2001. The publication contains the Proceedings of the ACIS 1st Annual International Conference on Computer and Information Science ICIS 2001, October 3-5, 2001. This article is hereinafter referenced "Cho". and further in view of US Patent Publication 2003/0217136 A1 by Cho et al. (hereinafter "Cho7136").

As per Claim 13, Deshpande discloses **the method of claim 1, comprising the steps of:**

when the UPnP AV device located on the home network is an MR (Deshpande; [0037]; The rendering device is also located within the home network.), **the UPnP AV device located on the common internet is an MS** (Deshpande; [0003]; The media server may be a personal computer located in a home network.), **the CP for**

controlling the MR and the MS is located on the common internet, and an IGD for connecting the CP and the MR is included, when the CP and the MR are connected to each other, setting up the NAT for transforming the private address to the fixed address by a UPnP IGD CP included in the MR; confirming, at the CP, an address of contents of the MS on the basis of a description address, and transmitting Browse( ) action to the MS (Deshpande; [0055], Figure 9; The home server system contains a content directory that allows for browsing and searching media files.); **and performing, at the MS, contents streaming to the MR by pushing.**

Deshpande is silent on a control point, the location of the device, the gateway, and URI transformation. Deshpande also fails to teach pushing the media content to the rendering device.

However, Cho teaches a control point for the UPnP devices located on the external network (Cho; pg. 67, col. 2, paragraph 1; The control points are located on the internet (external public network.)). Cho also teaches a gateway between the network and the internet (Cho; Figure 2 shows a CP module and a proxy server module. Both of these modules contain discoveries and announcements in the form of multicast transmissions and unicast transmissions between the home network and the internet, respectively. Thus, these are gateways for interconnecting the control point module with an UPnP device.). Cho further teaches URI transformation via a NAT (Cho; pg. 69, col. 2, paragraph 6; The CP (control point) module in the UPnP directory server contains a document parser and converter that converts the addresses of URLs. The NAT Client

assigns the public addresses of the URLs. The NAT is located in the module for translation.).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Deshpande to include URI address transformation taught by Cho, because accessing UPnP devices in a private network from a public network can not be done using peer-t-peer UPnP protocol. URL translation via NAT allows private addresses to be translated to public addresses (pg. 65, col. 2, paragraphs 2 and 3).

It would have also been obvious at the time of the invention to provide external clients with converted device description information based on IP addresses and to search information of UPnP devices equipped to respond to media servers and media renderers in a network (pg. 65, col. 1, paragraph 2; pg. 67, col. 1, paragraph 4).

Further, it has been held that there would be no invention in shifting the location of parts in a disclosed embodiment of an invention (*In re Japiske*, 86 USPQ 70 (CCPA 1950). By shifting the media renderer, the media server, the gateway, and the control point from the home network to the internet and vice-versa does not constitute modification. Therefore, in this case, shifting the media renderer to the home network from the internet shifting the MS from the home network to the internet, and shifting the CP from the home network to the internet would not thereby be modified.

Cho is also silent on the limitation of pushing the media content.

However, Cho7136 teaches managing and controlling UPnP devices in a home network over an Internet connection (abstract). The invention utilizes a push client for

transferring device control commands to a UPnP server. The server then is able to manage the UPnP devices (abstract, [0033]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Deshpande and Cho to include pushing information from a UPnP device to another in a home network taught by Cho, in order to advise the user of any changes in the arrangement of the UPnP devices in the network, via the pushed control commands ([0013]).

As per Claim 15, Deshpande in view of Cho discloses **the method of claim 14** (Deshpande; [0037]; The invention utilizes UPnP technology upon UPnP AV media servers and UPnP AV media renderering devices. Figure 1; Figure 1 is a representation of the devices interacting between the Internet and the home network. [0034]; The home server system and the client system interact with the media server.), **further comprising the steps of:**

setting up the NAT for transforming the private address to the fixed address by a UPnP IGD CP included in the MR when the CP and the MR are connected to each other (Cho; Figure 2 shows a CP module and a proxy server module. Both of these modules contain discoveries and announcements in the form of multicast transmissions and unicast transmissions between the home network and the internet, respectively. Thus, these are gateways for interconnecting the control point module with an UPnP device.); **confirming, at the CP, an address of contents on the basis of description information** (Deshpande; [0055], Figure 9; The home server system contains a content directory that allows for browsing and searching media files.), **and transmitting**

SetAVTransportURI( ) action for selecting playback contents to the MS through the IGD; and performing, at the MS (Deshpande; [0003]; The content directory allows for streaming media to be played on the appropriate rendering device. Cho; pg. 69, col. 2, paragraph 6; The CP (control point) module in the UPnP directory server contains a document parser and converter that converts the addresses of URLs. The NAT Client assigns the public addresses of the URLs.). contents streaming to the MR by pushing.

Deshpande and Cho are silent on pushing the streaming information.

However, Cho7136 teaches managing and controlling UPnP devices in a home network over an Internet connection (abstract). The invention utilizes a push client for transferring device control commands to a UPnP server. The server then is able to manage the UPnP devices (abstract, [0033]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Deshpande and Cho to include pushing information from a UPnP device to another in a home network taught by Cho, in order to advise the user of any changes in the arrangement of the UPnP devices in the network, via the pushed control commands ([0013]).

As per Claim 18 Deshpande **discloses in a UPnP-based network system in which UPnP AV devices are located on a home network and a common internet, respectively, a UPnPAV device interworking method of the UPnP-based network system** (Deshpande; [0037]; The invention utilizes UPnP technology upon UPnP AV media servers and UPnP AV media renderering devices. Figure 1; Figure 1 is a

representation of the devices interacting between the Internet and the home network. [0034]; The home server system and the client system interact with the media server.), **comprising the steps of:**

obtaining an address of the UPnP AV device located on the home network; **confirming the UPnP AV device located on the common internet by referring to description information** (Deshpande; [0045]; The address information may contain the URI of the media file associated with the device in the home server system.); **notifying the address of the UPnP AV device located on the home network to the UPnP AV device located on the common internet** (Deshpande; [0043]; The client system may browse the media content located in content directory); **and playing back contents selected by the user**, (Deshpande; [0003]; The content directory allows for streaming media to be played on the appropriate rendering device.), **by transmitting the contents from the UPnP AV device located on the common internet to the UPnP AV device located on the home network by pushing.**

Deshpande is silent on obtaining an address for the UPnP device and transmitting contents of UPnP devices by pushing.

However, Cho teaches that each UPnP must obtain an IP address (abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Deshpande to include obtaining an address for the UPnP device taught by Cho, in order for the UPnP devices to communicate with another (pg. 65, col. 2, paragraph 2).

Cho does not teach transmitting contents by pushing.

However, Cho7136 teaches managing and controlling UPnP devices in a home network over an Internet connection (abstract). The invention utilizes a push client for transferring device control commands to a UPnP server. The server then is able to manage the UPnP devices (abstract, [0033]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Deshpande and Cho to include pushing information from a UPnP device to another in a home network taught by Cho, in order to advise the user of any changes in the arrangement of the UPnP devices in the network, via the pushed control commands ([0013]).

As per Claim 19, Deshpande in view of Cho, and further in view of Cho7136 discloses **the method of claim 18, wherein the address transformation is transformation of an IP address and a port by the NAT, which is performed by any one of the UPnP AV device, an IGD and the CP** (Deshpande; [0037]; The invention utilizes UPnP technology upon UPnP AV media servers and UPnP AV media renderering devices. Figure 1; Figure 1 is a representation of the devices interacting between the Internet and the home network. [0034]; The home server system and the client system interact with the media server. Cho; pg. 69, col. 2, paragraph 6; The CP (control point) module in the UPnP directory server contains a document parser and converter that converts the addresses of URLs. The NAT Client assigns the public addresses of the URLs. Figure 2 shows a CP module and a proxy server module. Both of these modules contain discoveries and announcements in the form of multicast transmissions and unicast transmissions between the home network and the internet,

respectively. Thus, these are gateways for interconnecting the control point module with an UPnP device.).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Deshpande to include URI address transformation taught by Cho, because accessing UPnP devices in a private network from a public network can not be done using peer-t-peer UPnP protocol. URL translation via NAT allows private addresses to be translated to public addresses (pg. 65, col. 2, paragraphs 2 and 3).

As per Claim 20, Deshpande in view of Cho, and further in view of Cho7136 discloses **the method of claim 19, wherein, in the case of an in-band streaming protocol, the CP performs the address transformation, and in the case of an out-of-band streaming protocol, the UPnP AV.device performs the address transformation** (Deshpande; ([0037]; The invention utilizes UPnP technology upon UPnP AV media servers and UPnP AV media renderering devices. Figure 1; Figure 1 is a representation of the devices interacting between the Internet and the home network. [0034]; The home server system and the client system interact with the media server. Cho; pg. 67, col. 2, paragraph 1; The UPnP directory server acts as a proxy between the points on the internet and points in the home network. pg. 69, Figure 2, col. 2, paragraphs 1 and 3. The directory server contains a control module for address conversion. In this way, the server does translations both in network streaming translation and home network streaming translation.).

The examiner maintains the motivation to modify the teachings of Deshpante with the teachings of Cho as disclosed in Claim 19.

Conclusion

7. Prior arts made of record and not relied upon include:

US Patent Publication 2002/0040397 A1 by Choi et al teaches an IP based network method and system for communicating between devices in a network.

US Patent Publication 2005/0010816 A1 by Yu et al teaches secure communications between multiple devices in a network.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BENJAMIN ELLIOTT whose telephone number is (571)270-7163. The examiner can normally be reached on Monday thru Thursday, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Taghi Arani can be reached on 1-571-272-3787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B. E./
Examiner, Art Unit 4144